Claims

1. Artificial intra ocular lens of variable optical power **characterized by** at least two optical elements which can be shifted relative to each other in a direction extending perpendicular to the optical axis wherein the optical elements have such a shape that they exhibit, in combination, different optical powers at different relative positions.

2. Artificial intra ocular lens according to claim 1, **characterized by** positioning means for positioning the optical elements in the eye and driving means, operable by the user, for at least one of the optical elements to execute a movement of said optical element relative to the other optical element.

3. Artificial intra ocular lens according to claim 2, **characterized in that** the driving means that have been adapted to be connected to the ciliary muscle of the eye.

4. Artificial intra ocular lens according to claim 1, 2 or 3, **characterized by** adjusting means which are connected to the optical elements for adjustment of the resting position of the optical elements.

5. Application of artificial intra ocular lens according to one of the preceding claims, **characterized by** application of the lens for correction of a disorder of the eye.

6. Application of artificial intra ocular lens according to claim 2 or 3, **characterized by** the use of the lens as an accommodating artificial intra ocular lens.

7. Application of artificial intra ocular lens according to claim 4, **characterized by** the use of the lens as a non-accommodating artificial intra ocular lens.

8. Artificial intra ocular lens according to any of the claims 1 - 4, **characterized in that** at least one of its optical elements has at least one saddle shaped surface.

9. Artificial intra ocular lens according to any of the claims 1 - 4, **characterized in that** at least one of its two planes has an optical diffraction structure.

10. Artificial intra ocular lens according to any of the claims 1 - 4, **characterized in that** at least one of the optical elements comprises an optical structure of the GRIN type.

11. Artificial intra ocular lens according to any of the claims 1 - 4, **characterized in that** the optical elements are adapted to change their combined optical power when rotated relatively to each other.